Using HLA for Online Gaming

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Outline
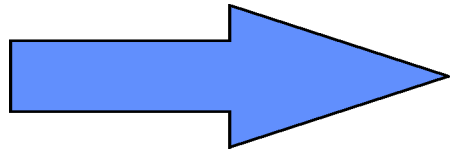
→ Objectives

IC3D

Demo

Conclusion

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Objective

Distributed simulation using high quality graphics in an ubiquitous environment based on declarative syntax.

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HLA

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HLA   Games

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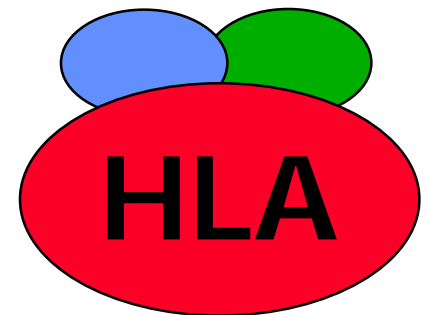
HLA   Games   Web

HLA

The HLA provides a flexible way to create multi-user experiences
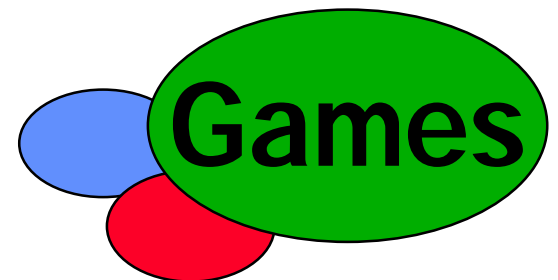
but

there is no easy way to tie in existing content.

Games

Games use the most advanced rendering and modeling techniques

but

use it in an ad hoc and proprietary fashion.
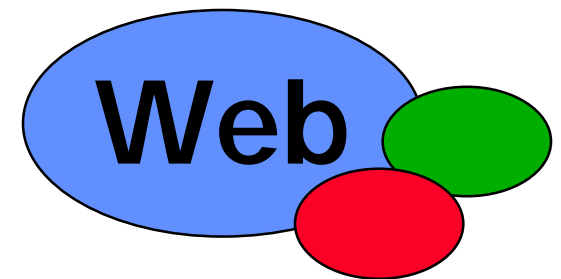
Games

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Web

The Web provides a variety of languages to express content for rich user experiences **but**

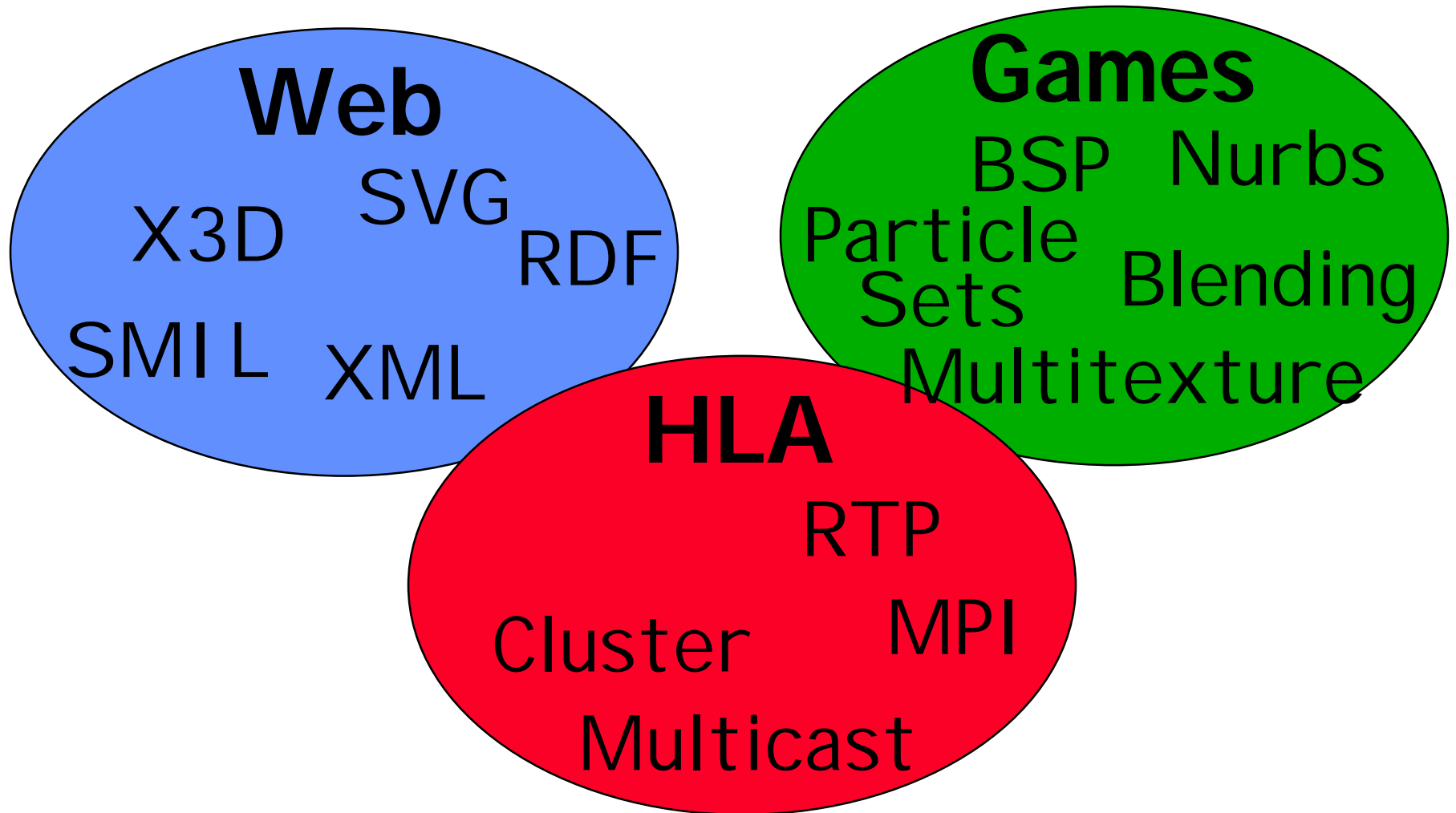it is a one person interactive experience.

Features

	HLA	Games	Web
Content	Weak	Weak	Strong
Graphics	None	Strong	OK
MultiUser	Strong	Weak	None

Approach
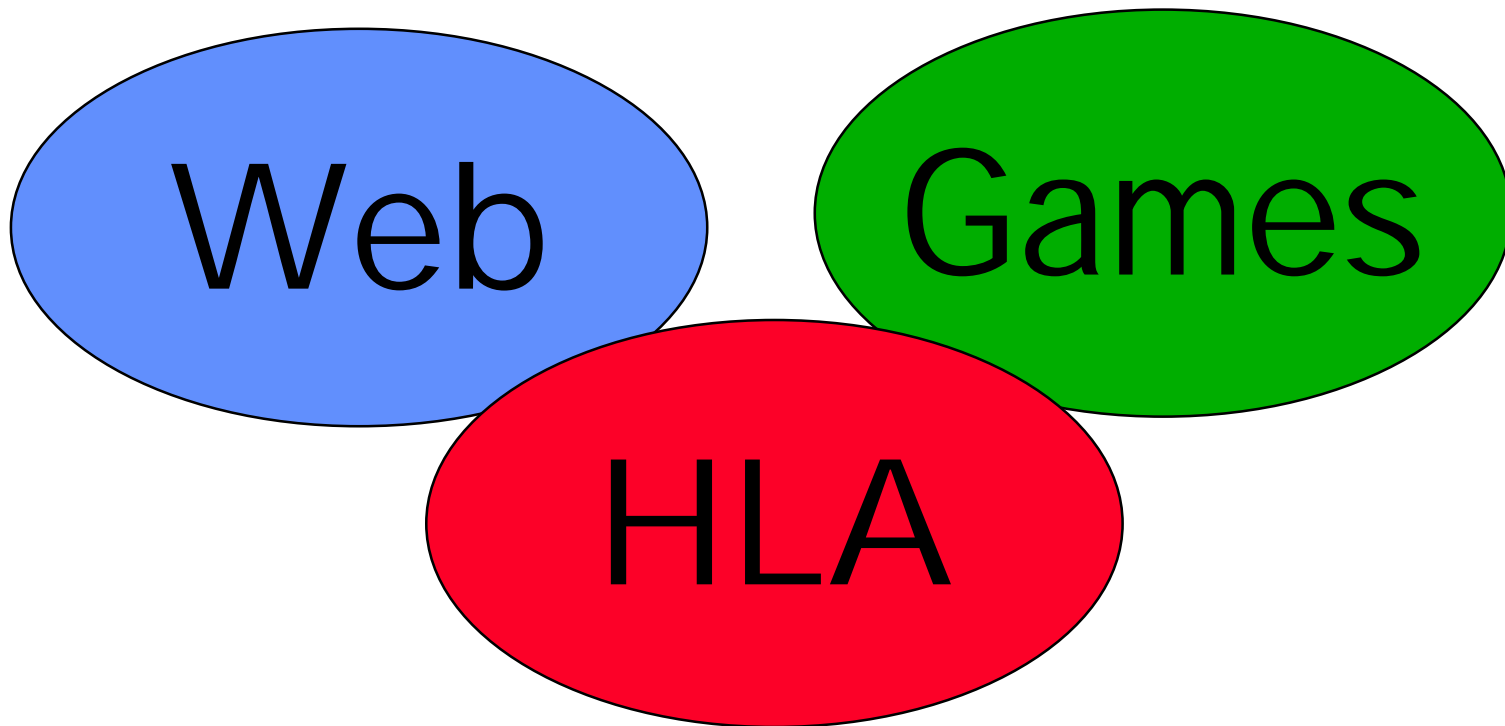
Combine the individual strengths into one framework.

Components

Web

X3D SVG RDF

SMIL XML

Games

BSP Nurbs

Particle Blending

Sets Multitexture

HLA

RTP MPI

Cluster Multicast

IC3D Framework

IC3D and the Web

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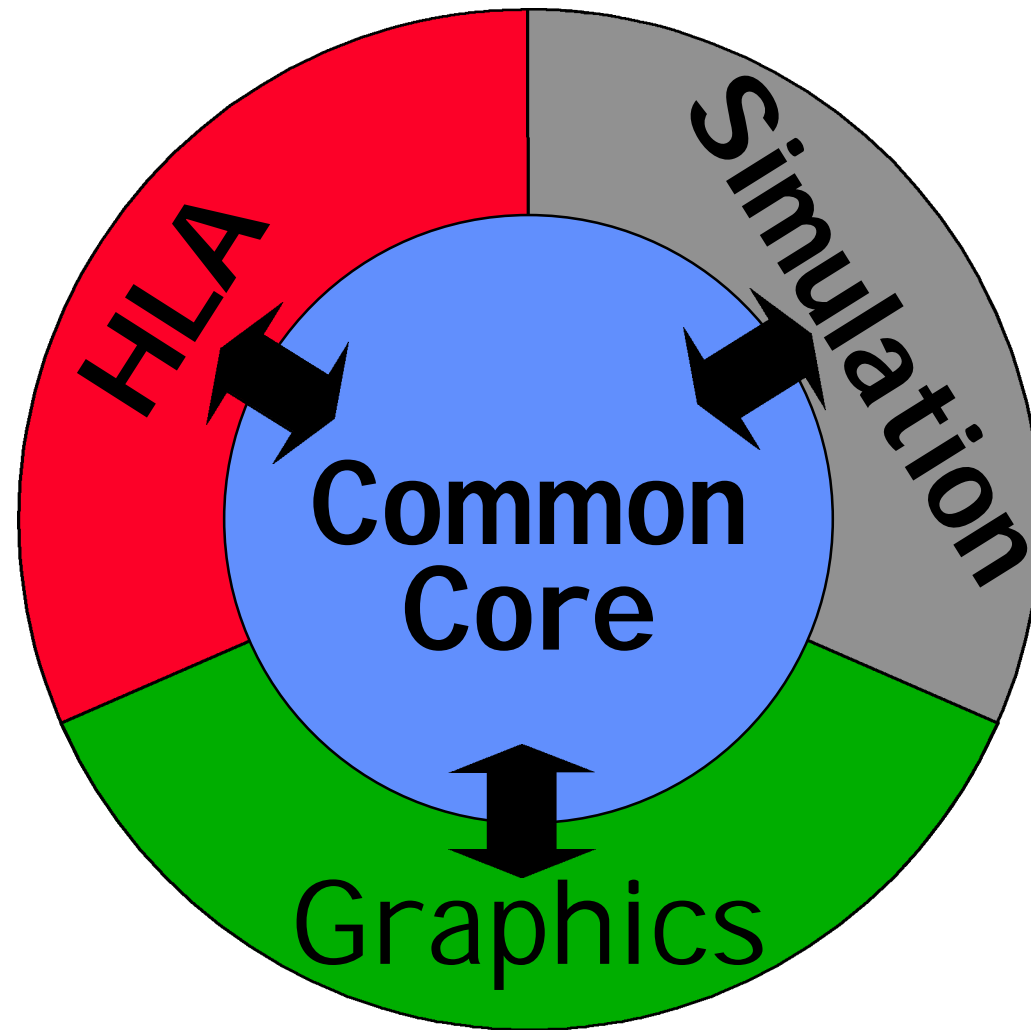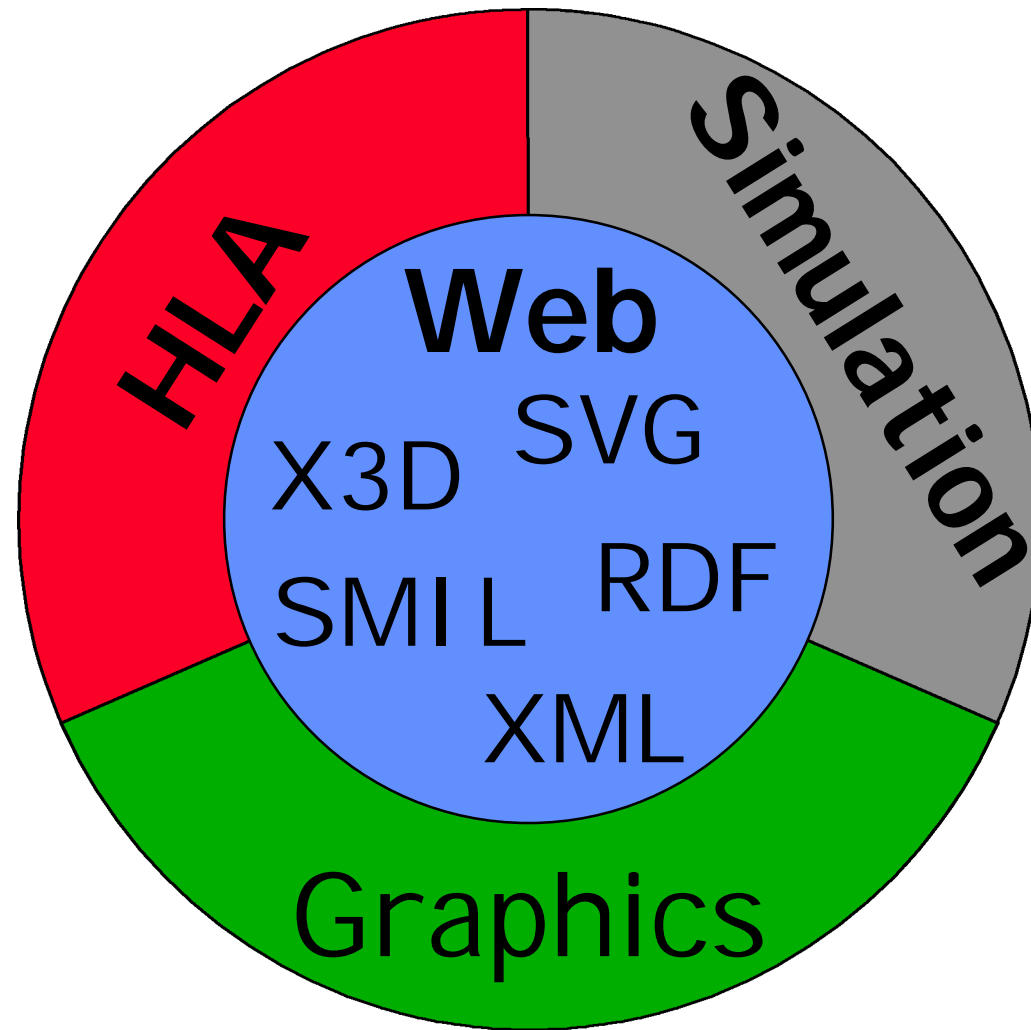
Trend

Emerging standards transfer technology into declarative syntax.

Web

Games

HLA

IC3D and the Web

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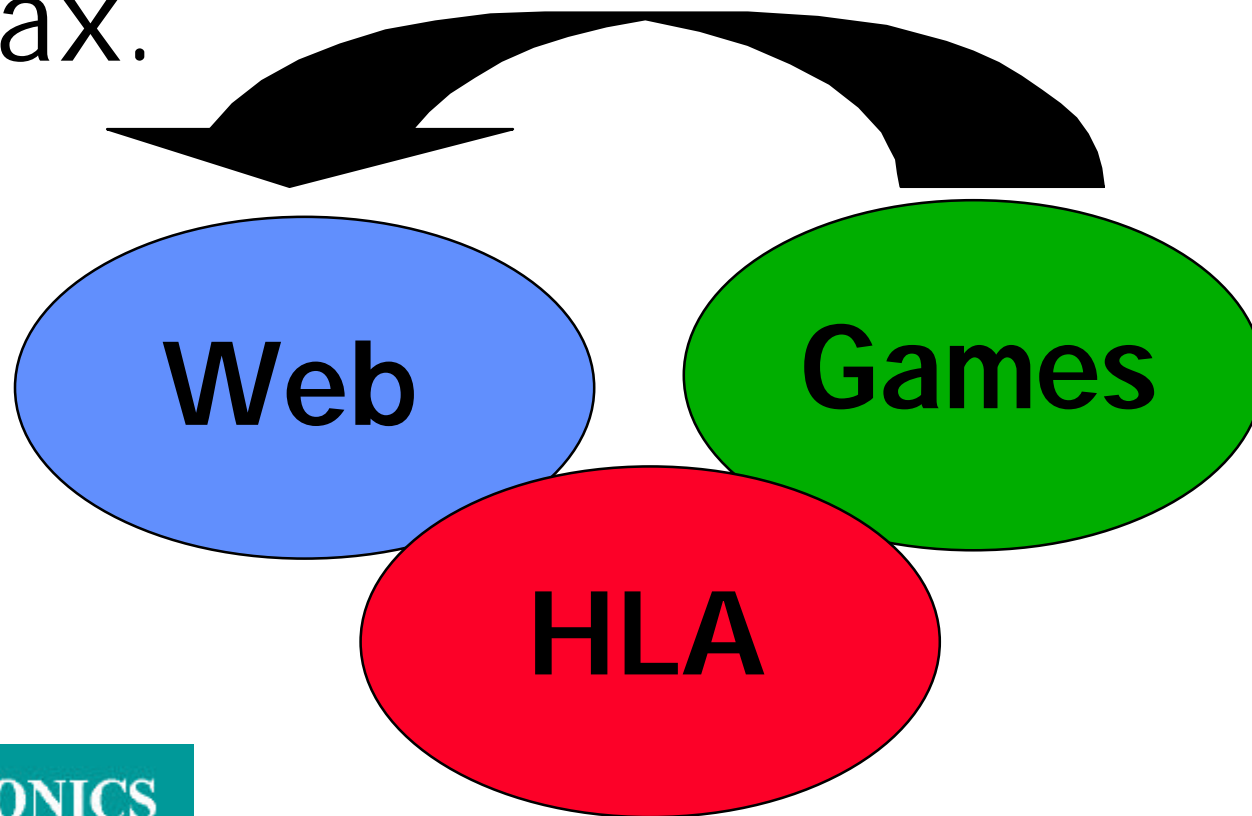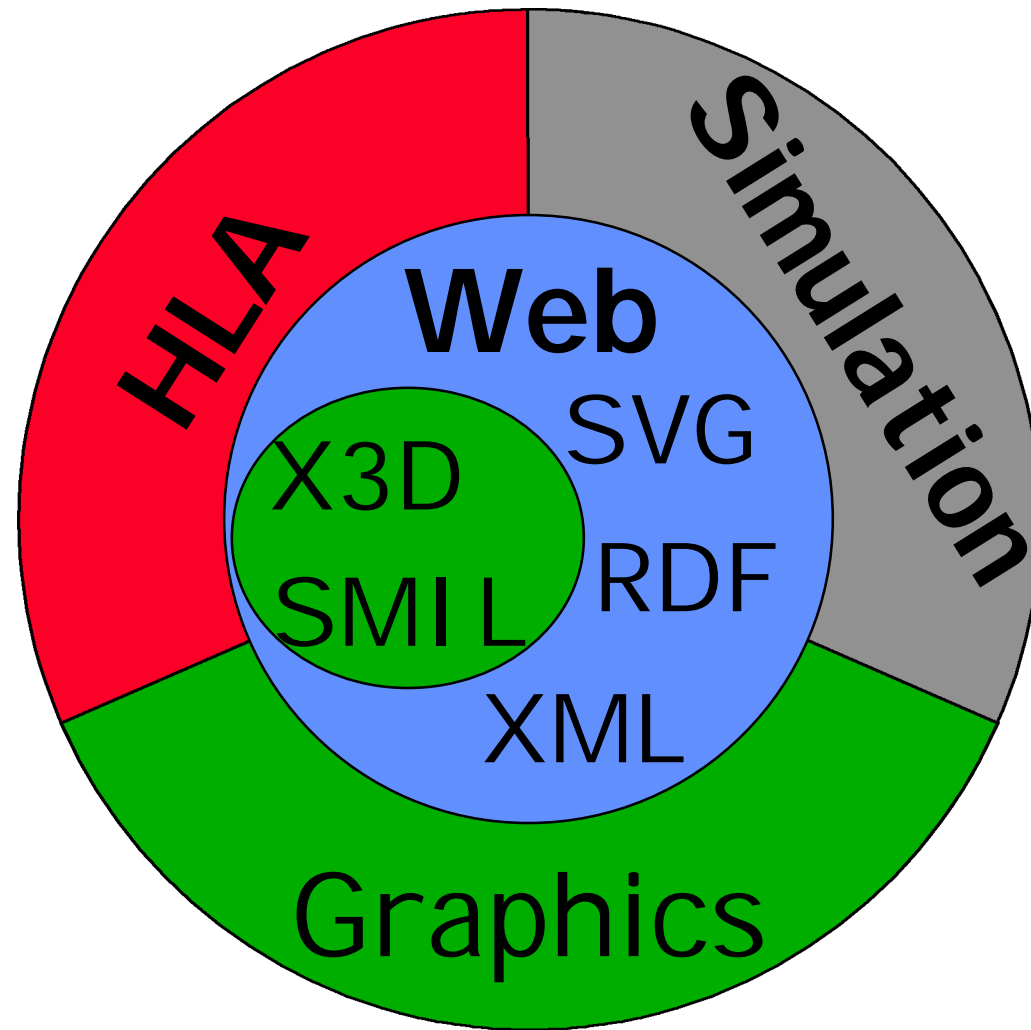
Scene Graph Model
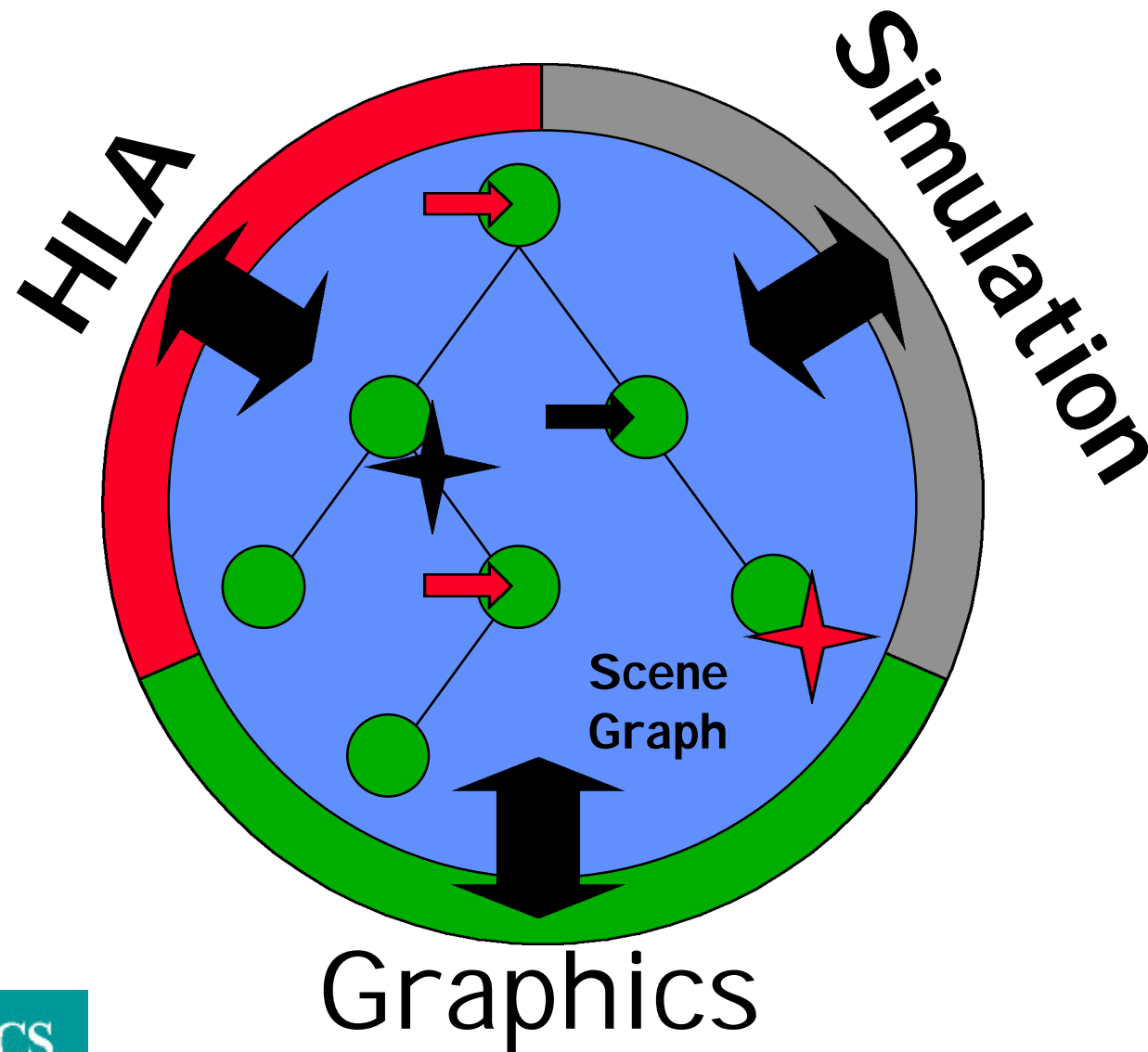
FOM

Declarative elements can be easily translated into the FOM and thus shared using the HLA.

Web

Games

HLA

Why HLA?
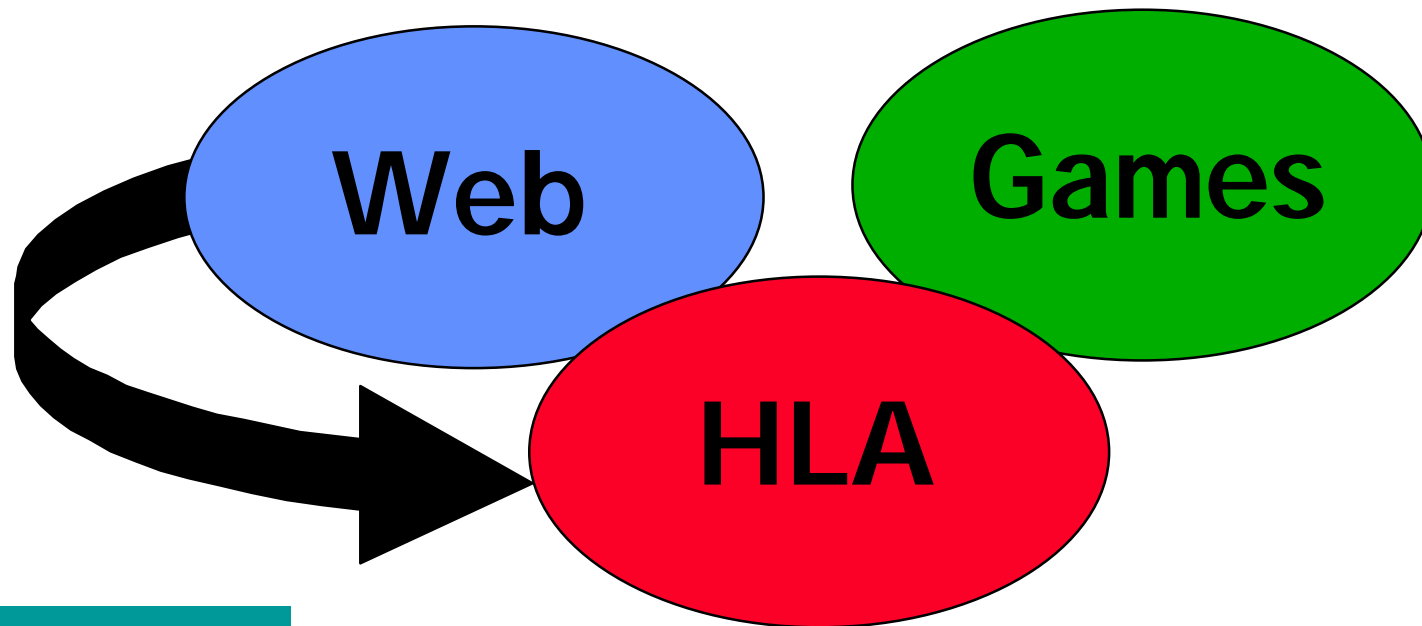
HLA is a proven technique for handling interactions among reusable distributed objects.

Unlike games, under HLA objects are developed independently of their ultimate use (e.g., exercises and games).

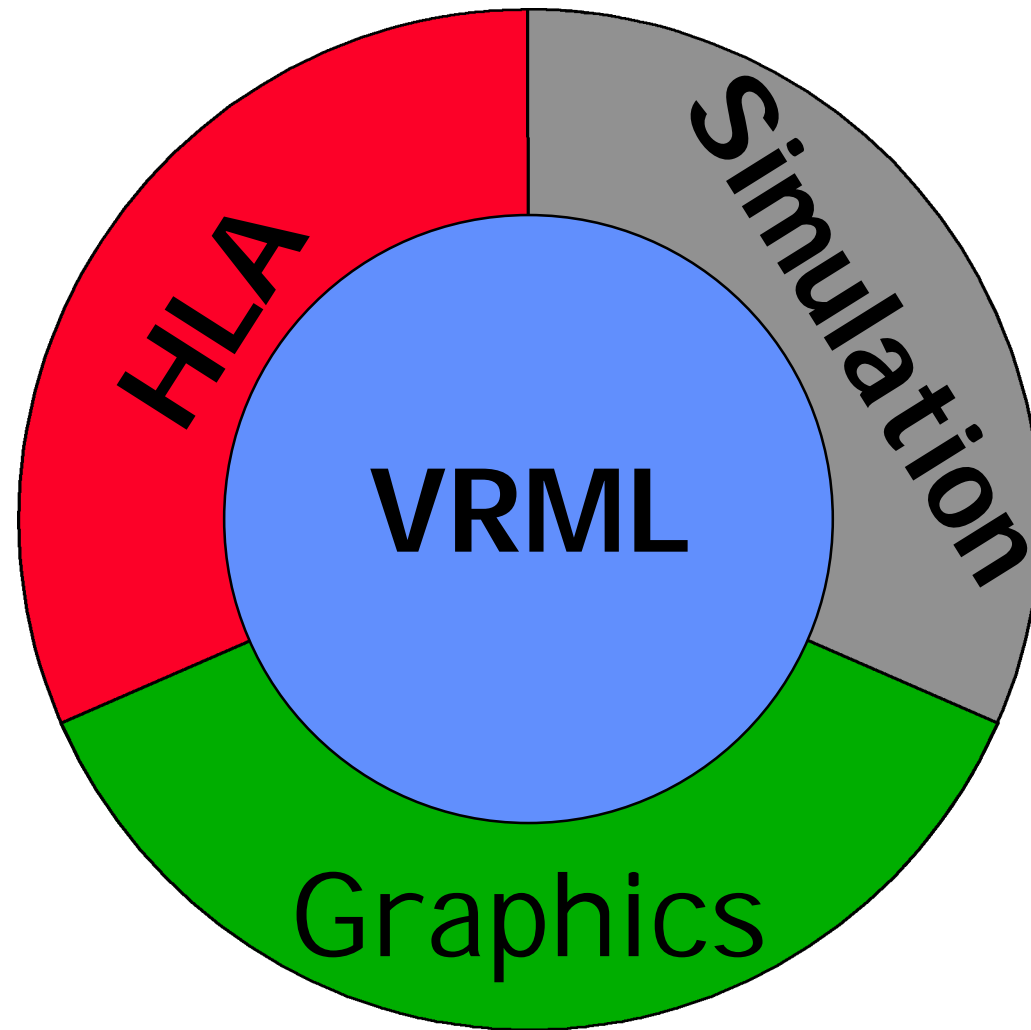# Head of the River Challenge

3DVisualization

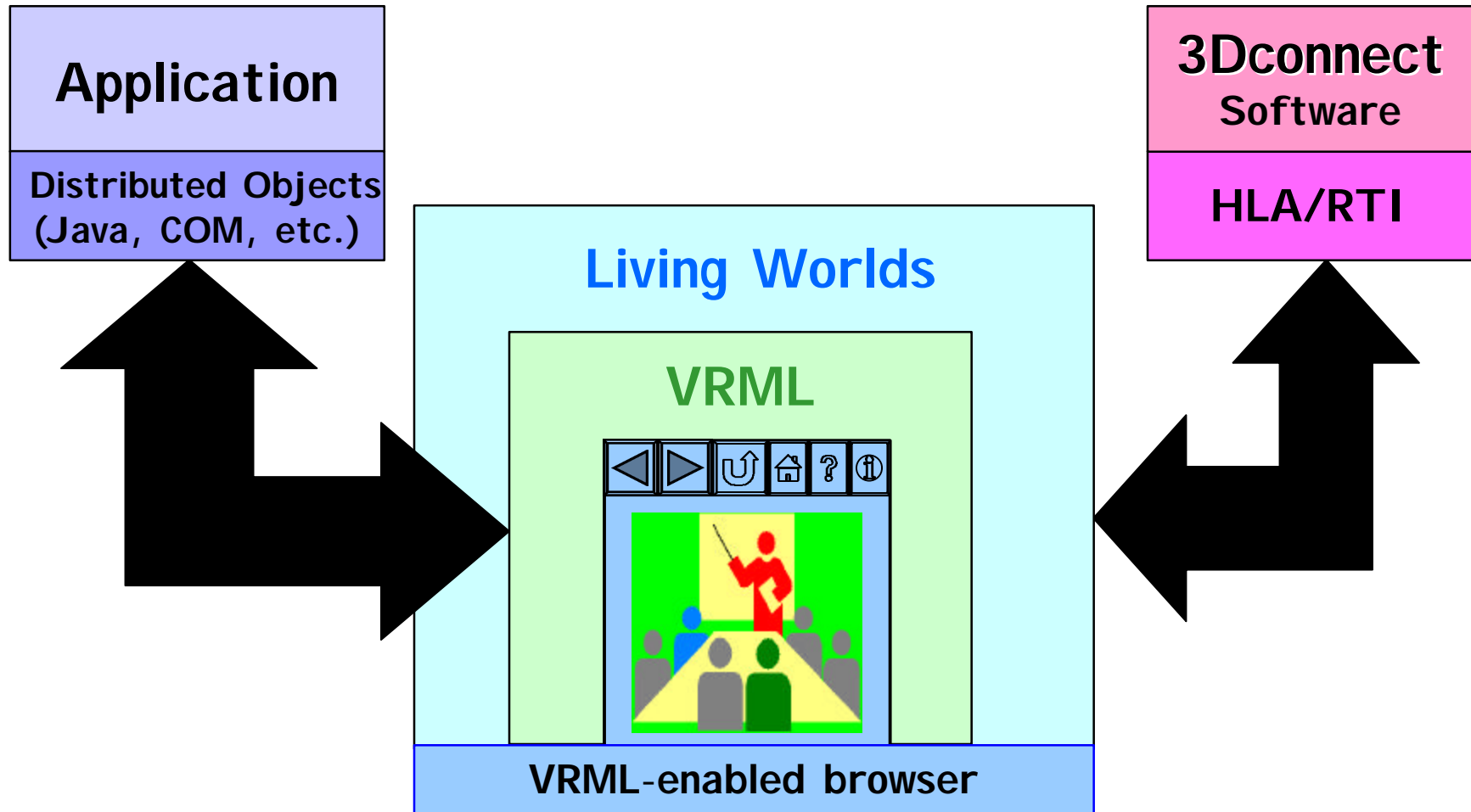Rowing Aids

Viewing Controls

HOTRC Observers

- Observers can be anywhere on the Internet.
- Observers can use individual viewpoints (e.g., to follow a boat) and also share them.
- Observers may be visible.

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I C3D and VRML

IC3D/VRML Framework

Application

Distributed Objects (Java, COM, etc.)

3Dconnect
Software

HLA/RTI

Living Worlds

VRML

VRML-enabled browser

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Conclusion

IC3D combines the individual strengths of HLA, Games and the Web into one framework.

IC3D Web Site

For more information please go to:

http://ic3d.perceptronics.com

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